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AIR COMMAND AND STAFF COLLEGE

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POST-COLD WAR WARGAMING

AND THE

AMERICAN MILITARY LEADERSHIP CHALLENGE

by

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Preface

Over the course of a three-year assignment to the Air Force Wargaming Institute, College of Aerospace Doctrine, Research, and Education, I witnessed a most remarkable ascendance of interest in a well-established but often undervalued aspect of professional military education—the wargame. Renewed and expanded interest in an endeavor of proven worth was made manifest by the increasing number and complexity of wargaming exercises conducted by each of the Armed Services each year, exercises that enjoyed high-level participation and attention as well as significant financial support.

My experience in this unique area of military training and education was, at times, both rewarding and frustrating. While the challenges and benefits of the wargames we presented were apparent to all participants—players and controllers alike—I perceived an opportunity lost for truly meaningful learning after many of these events. Without a doubt, education occurred in every case, and in every case the educational effort was focused on specific objectives. Yet, in wargaming, as in campaign planning, objective determination is the critical step. Having observed the development and execution of these events, it is my belief that our educational objectives are not properly focused. A Cold War "lens" that blurs our appreciation for the realities which currently threaten our Nation's security, and the peace and stability of the world in general, is distorting our wargaming vision. This research effort, my attempt to highlight this problem, is tailored to serve three purposes. First, to recognize the important role the art of wargaming plays

in preparing military professionals for combat leadership. This step is essential to establish a foundation of understanding about wargaming. Second, to examine a representative sampling of current wargames and contrast them against the existing and emerging threats to U.S. national security. Finally, to demonstrate that current and proposed wargames fail to adequately prepare tomorrow's military leaders for the challenging environments in which they will operate.

In preparing this essay, I benefited from the expertise and generous assistance of several wargaming professionals whose contributions to this effort are greatly appreciated. First and foremost, many thanks to my faculty research advisor, Lieutenant Colonel Matthew Caffrey, Jr., USAFR. I am indebted to Colonel Russell V. Olsen, Jr. (U.S. Army War College), Commander Kevin McIntire (U.S. Naval War College), and Major Victor Splan (Marine Corps Combat Development Command) who provided me with critical insights to their Services' current and proposed wargames. Special thanks is also afforded to Commander (Ret.) Stephen M. Crawford of the Logicon Corporation for his assistance in collecting Naval wargaming data. Finally, I want to express my heartfelt gratitude to the men and women of the Air Force Wargaming Institute. Recognized as the heart and soul of the *Center of Wargaming Excellence* in the United States Air Force, their dedication, stamina, and creativity reflect our Service core values and provide the inspiration behind this project.

Abstract

During the first decade of the post-Cold War era, the United States military engaged a surprisingly unfamiliar and unstable international community on a variety of fronts. In light of these engagements, the Department of Defense (DOD) enacted several initiatives to overcome a perceived shortfall in crisis action leadership. As one means of enhancing leadership readiness for the next century, the DOD is emphasizing the conduct of wargames at every level of officer professional development. Historically, wargaming is an effective tool for educating political and military leaders in the operational art. While recent developments in computer models and simulations offer unprecedented possibilities for further enhancing the value of wargaming, the current body of DOD wargames reflects Cold War era thinking with regard to threat environments, force structures, and force employment. An examination of current wargaming literature and exercises reveals DOD wargaming scenarios, and related findings, that are a step behind the near-term threats to U.S. national security. Failing to fully address the challenges posed by smaller-scale contingencies (SSC) and other emerging threats, as outlined in the U.S. National Security and Military Strategies and Joint Vision 2010, DOD wargames do not adequately prepare American military leaders for the challenges before them. To rectify this shortcoming, SSC wargames should be developed and executed throughout the Joint Professional Military Education community in conjunction with ongoing major theater warfare (MTW) wargaming programs.

Chapter 1

Forging A Better Leader

> *It is essential that our Joint Professional Military Education (JPME) programs provide our warfighters with an understanding of strategic concepts in the future environment where military force will be applied…Our training must reflect emerging threats….*
>
> —General John M. Shalikashvili, 1996
> Chairman, Joint Chiefs of Staff

In *Joint Vision 2010*, the Chairman of the Joint Chiefs of Staff (CJCS) drew a conceptual roadmap for the United States Armed Forces to follow into the next century. Among other, more widely publicized elements in this document, the CJCS identified six *Critical Considerations* for the future. *Innovative Leadership* and *Joint Education and Training* are two of these considerations, which emphasize a requirement for "innovative strategic and operational thinking"[1] and a need for programs that "prepare joint warriors to meet the challenges of the future battlespace."[2] Today, JPME institutions diligently work to realize the CJCS vision, fostering innovative thought through education and training programs that include the time-honored practice of military wargaming.

The purpose of this essay is to determine the adequacy of ongoing and proposed wargaming efforts in addressing the most likely challenges to American military leadership in the near future. The foundations of modern wargaming are established via a concise yet broad analysis of the origins, objectives, and formats of contemporary

wargames. A select sampling of current and developing wargames and wargaming technologies is provided as a baseline for subsequent analysis. After reviewing components of the current U.S. National Security and Military Strategies and Joint Vision 2010, Department of Defense (DOD) wargames are analyzed in light of emerging, post-Cold War era threats to U.S. national interests and world peace.

The Hammer

Wargames are a bridge between the art and science of warfare studies, and offer military educators a proven tool for conveying knowledge of the operational art and for developing leaders' decision-making skills.[3] Today, the proven effectiveness of educational wargames is enhanced by the incorporation of state-of-the-art computer models and simulations. The high-fidelity feedback provided at great speed by microprocessor systems makes possible a level of realism in wargaming not previously observed. When employed in conjunction with military and other government agency subject matter expertise, these new systems create learning environments that are the most challenging leadership opportunities available short of deploying operational forces in the field.[4]

Still, the value of a tool is not in its being, but in its effective utilization. A hammer unused forges no steel. Likewise, a hammer swung with great energy but poor aim accomplishes little good, and may even cause some harm. Striking the mark with consistency is the blacksmith's trademark, and wargamers appreciate and strive to adhere to this principle in the pursuit of their professional objectives, too. When, as General Shalikashvili stated, our educational objective is to prepare today's forces, especially

those in leadership positions, for tomorrow's challenges, the wargaming tool must be employed with great skill in order to achieve the desired effect.

The Anvil

This first decade of the post-Cold War era is a time of uneasy political stability and uncertain military utility. The falling of the Berlin Wall signals a victory for democracy and promises a new era of progress. Yet, as many of the republics and client states of the Former Soviet Union proceed along their individual courses toward democratization and economic liberalism, other nations of the world are experiencing political, cultural, economic, and environmental turmoil. Uneven progress in global development is dashing exaggerated hopes for a "New World Order," an international community characterized by peace and a greater prosperity. Even before the United States and Western Europe could relax their guard and attempt to put from their collective mind the forty-year-long nightmare of an all-out war on the Central European plain, they found themselves embroiled in myriad crises around the globe requiring some sort of military intervention. Predictably, available forces, existing equipment, and traditional training and education practices were, and in some cases remain, ill suited for confronting the newest challenges to peace and prosperity.[5] At the same time, these over-extended forces are being systematically reduced as part of an overall program to eliminate costly infrastructure and reduce expenditures.

In the face of emerging challenges and existing constraints, the DOD enacted training and education initiatives to overcome perceived shortfalls in readiness and capability. Building upon the mandates of the Goldwater-Nichols Defense Re-Organization Act of 1986, which stipulated requirements for increased joint military

interoperability, the DOD directed the CJCS to establish JPME curricula that emphasizes joint warfighting capabilities.[6] Among the goals outlined in this directive is a requirement to improve crisis action leadership capabilities in the joint military officer corps. As one means of enhancing leadership readiness for the next century, DOD educational institutions are focusing their energies on the conduct of wargames at every level of officer professional development.

Striking the Mark

The nature and scope of wargames designed to address our readiness and leadership concerns should reflect those attributes our intelligence community ascribes to emerging global antagonists and to the specific threats they pose to U.S. national security and other present or future interests. The validity of the current DOD wargaming effort is being assessed on these points. At present, wargame designs tend to emphasize peer-level competition against traditional enemies in major theater warfare (MTW) environments. Wargaming endeavors of this type, some argue, preserve and advance our Nation's critical capability to plan, execute, lead, and win large-scale wars.[7] While our Nation must always be prepared for this level of conflict, the question that must be answered is whether or not these scenarios alone adequately prepare rising military officers to lead U.S. forces in a world beleaguered by multiple, smaller-scale contingencies (SSC) and other emerging threats to peace and security.

Notes

[1] U.S. Department of Defense, Joint Staff, *Joint Vision 2010* (Washington, D.C.: GPO, 1996), 28.

[2] Ibid., 30.

[3] Peter P. Perla, *The Art of Wargaming* (Annapolis: Naval Institute Press, 1990), 9.

Notes

[4] Peter P. Perla, "Future Directions for Wargaming," *Joint Forces Quarterly* 5 (Sum 94): 83.

[5] Wallace J. Thies, "Deliberate and Inadvertent War in the Post-Cold War World," *Strategic Review* 25 (Spr 97): 26.

[6] U.S. Department of Defense, Armed Forces Staff College, *The Joint Staff Officer's Guide* (Washington, D.C.: GPO, 1997), 2-13.

[7] Christopher Bellamy, *Knights in White Armor: The New Art of War and Peace* (London: Hutchinson, 1996), 192.

Chapter 2

Foundations of the Modern Wargame

> *Koenigspiel was not designed to serve merely as a pastime but that it would furnish anyone who studied it properly a compendium of the most useful military and political principles.*
>
> —Christopher Weikhmann, 1644
> Designer, "The King's Game"

Throughout the year and around our world simulated conflict rages on as wargame players prepare themselves for the real demands of their dynamic professions. In military organizations as diverse as the Warrior Preparation Center, Combined Royal Forces Command and Staff College, and Headquarters, United States Central Air Forces, tactical engagements, theater operations, and strategic conflicts are planned, executed, and evaluated on a recurring basis against real and hypothetical threats. Predictably, these very different organizations (and many more not mentioned above) have unique educational and training requirements. To achieve these objectives, they develop and conduct mission-tailored wargaming exercises while exploiting the full range of technological capability found within and without the DOD wargaming community.

Anyone observing a body of wargames could easily identify several attributes that distinguish one from another and, at the same time, many other characteristics that highlight their similarities. What the casual observer will fail to recognize is the common thread which binds all wargames over distance and time. That invisible strand is the

universal requirement for a game design that directly supports the training and educational needs of the game's user.[1] By identifying the four key pillars of the modern wargaming structure, one begins to ascertain this commonality and appreciate the significance of wargames in the process of warfighter development. The pillars of modern wargaming referred to above are: the historical significance of wargames, the theory and practice of wargames, the methods used to execute wargames, and the post-World War II phenomenon known as the *Cold War*.

Wargames in History

Ancient China

An enduring, cross-cultural fascination with the writings of General Sun Tzu is a remarkable testimony to the timeless value of his insights and observations on warfare. Numerous scholars believe that Sun Tzu made use of wargames to formulate and teach his warfighting principles.[2] Some researchers even suggest that he developed the popular Chinese game of strategy and conquest known as *Wei Hai* or *Go*.[3] Although there is limited historical evidence to support these claims, no arguments overshadow the fact that a wargame in the employ of East Asian strategists and commanders more than 2,500 years ago continues to find meaningful application in contemporary China.[4]

Indus Valley

Around 600 A.D., the "army game," or *Chaturanga*, appeared in the Asian subcontinent. Hindu military commanders, making use of a playing board, various figurines representing the essential components of existing fighting forces, established rules of maneuver, and an element of chance (dice) measured their ability to outwit their

opponents on a simulated battlefield.[5] Since the "fighting forces" were evenly divided in number and value between the players, those who mastered the game demonstrated a well-regarded capacity for strategic thought. By the 10th century, *Chaturanga* reached westward through the Ottoman Empire to far frontiers of Europe. Along the way, these complex and diverse societies imposed mathematical and cultural attributes upon the modified game known throughout Europe as *Chess*.[6]

Renaissance Europe

By the 16th and 17th centuries, *Chess* evolved into a distinctly European tool for modeling politico-military competition. The incorporation of complex maneuvers and a fortification capability (castling) underscored some of the significant changes occurring in military thought during that period.[7] More importantly, the emergence of powerful political and clergy figures (queens and bishops) signaled a subordination of military power to political control and a move away from the game's traditional warrior focus.[8] The game's demonstrated capability for adaptation and meaningful application perpetuated its use as a tool for training and educating Europe's political and military elite well into the 19th century, and remains a classic model for developing a strategic perspective.

Prussia

After more than eight centuries of modeling conflict on the chessboard, Europe adopted a new framework for wargaming. In 1824, a young Prussian officer laid the foundation for what is considered the modern wargaming construct.[9] Building upon a scaled-model concept developed by his father and embraced by King Frederick Wilhelm III, First Lieutenant Georg von Reisswitz developed a new game of maneuver using lead

figures and actual military maps.[10] The value of *Kriegspiel*, or "wargame," as a tool for training for war was immediately apparent to the Chief of the General Staff, General von Mueffling, and other influential leaders in the Prussian Army.[11] Field Marshal Count Helmuth von Moltke's use of *Kriegspiel* to plan a campaign against the combined forces Austria and Saxony in 1866 allowed the commander to explore various operational branches prior to combat.[12] Prussia's rapid victory, despite the enemy's command of interior lines and relative parity in technological capability and fielded forces (Prussia's 220,000 versus Austria's 190,000 and Saxony's 25,000)[13] is generally attributed to superior planning, organization, and staff training, which included requisite wargaming.[14] By the turn of the century, numerous adaptations of von Reisswitz's wargame, frequently referred to as "war chess," were employed by Europe's armies as a formal method for preparing for war.[15]

United States

Observing the Europeans' use of wargames for pre-conflict military planning, and studying their successes and failures in subsequent combat operations, the U.S. Naval War College staff recognized the utility of wargaming for professional military education. Livermore, Mahan, McCarty Little, and others introduced and advanced wargaming into the college curriculum before the turn of the last century.[16] Their promotion of this ancient art sparked an undying interest in Naval wargaming that proved decisive in World War II and beyond. In fact, the *Strategic Naval War Game*, conducted throughout the 1930s, had so thoroughly prepared the Navy for Pacific operations versus Japan, that Fleet Admiral Chester W. Nimitz remarked:

> "The war with Japan had been reenacted in the game rooms [of the Naval War College] by so many people and in so many different ways that

> nothing that happened during the war was a surprise—absolutely nothing except the kamikaze tactics towards the end of the war."[17]

Since that time, wargames have become an instrumental element of strategy development throughout the DOD.

Developments in Wargaming Theory and Practice

As wargaming gained wider acceptance throughout the U.S. Armed Services, military professionals discovered new applications for wargames. Over time, three distinct but inter-related categories of wargames emerged, each type supporting the unique requirements of a particular user group. Taken as a whole, all forms serve to advance the art and science of warfighting, and represent the second pillar of an evolving wargaming structure.

Analysis

Wargames used to gather and quantify data in order to substantiate or verify findings related to research problems describe *analytical wargames*.[18] Within a given set of circumstances or assumptions, analysts compile data through wargaming to produce highly focused conclusions about conflict.[19] The use of wargames for this purpose is an integral aspect of *operations research*, and the products of such endeavors may be used to assist the Services in making organizational changes or acquisition decisions.[20]

Training

Employed to rehearse special skills or to improve technical proficiencies, *training wargames* permeate every level of the military from basic training to joint force exercises.[21] Providing environments and opportunities to enhance mission-essential task performance, training wargames support the needs of military operators.

Education

A wargame designed to stimulate decision-making processes and "to illuminate the effects of the human factor in warfare" is an *educational wargame*.[22] Focused on the interplay of participants' intangible human qualities (experiences, perspectives, and emotions),[23] educational wargames are the most complex of the various types of wargames conducted. The DOD does not officially distinguish educational wargames from training wargames. In fact, JPME institutions employ this unique category of wargames to expose and exploit their students' leadership qualities while exploring pertinent issues and areas of concern to the professional military community at large.[24] For these reasons, the educational wargame is the focal point for the remainder of this study.

Modern Wargaming Methods

Educational wargaming professionals pursue their interests using a variety of wargame methodologies. Each of these methodologies is similar in that they all incorporate what Dr. Peter Perla, author of *The Art of Wargaming*, calls "key elements." Without belaboring the point, it is worth noting that these shared design features are:

Elements of a Wargame[25]

1. Objectives
2. A Scenario
3. A Data Base
4. Models
5. Rules
6. Players
7. Analysis

What distinguishes one modern wargaming method from another is the level and sophistication of computer technologies required for wargame play and necessary to

realize the educational objectives of the exercise. Based on these criteria, this third pillar of modern wargaming embodies three principal methods.

Seminars

The simplest, and many traditional educators would argue best, method for conducting a wargame is in *seminar*.[26] In seminar wargames, the player dynamic is the centerpiece of the exercise. Acting and reacting to an evolving conflict scenario, players develop plans and formulate orders (game "moves") in a roundtable forum, then brief their overall intentions to a control team. The controllers, subject matter experts responsible for guiding the course and tempo of the wargame, determine the outcome of the players' decisions in a similar manner. This process is referred to as manual adjudication, and computers are not used or required.[27] As one might expect, the quality of wargaming seminars is decisively dependent on the depth and breadth of operational experience possessed by the control team's membership.

Computer Wargames

At the other end of the educational wargaming spectrum there are computer-based exercises, or *computer wargames*. In computer wargames, hardware and software supercede the human dynamic as the centerpiece of the wargaming experience. Although this method is generally easier to master than other wargaming options, player moves are often constrained by the input capabilities of the system program and wargame control is similarly effected by the capabilities of the system's computational output.[28] These architectural limitations may narrow the scope of this type of educational exercise, but computer adjudication compensates for this shortfall by providing players and controllers with large quantities of highly detailed feedback at great speed. The quality of computer

wargames is directly linked to the depth and breadth of operational knowledge available to the system's programmer.

Computer-Aided Exercises

When the finer elements of seminars and computer exercises combine into a single wargaming method, the result is a *computer-aided exercise (CAX)*. This method allows players to operate in the seminar format while controllers utilize various computer models "off-line" to adjudicate engagements. Maximizing the benefits of educational wargaming by elevating the human dynamic of the seminar wargame through the judicious application of computer generated feedback,[29] CAX are rapidly becoming the educational wargaming method of choice in the DOD.[30]

The Cold War

The fourth and final pillar of the foundation of the modern wargame is the politico-military phenomenon known as the *Cold War*. For about four decades following the conclusion of World War II, the character of the international community was defined by the confrontational relationship that existed between the United States and its allies and the Soviet Union and its satellite states.

Peer Competition

Mutual suspicion of the opponents' motives, intentions, and capabilities prompted both sides to strive for military advantage. In developing remarkably large peacetime military forces, each side scrutinized innovations in military art and science for their potential to shift the balance of power in their favor. Aggressive armaments programs produced the largest, most sophisticated, and deadliest arsenals in history. Of particular

significance to this study, both camps also developed, practiced, and continually refined (in part, through wargaming) broadly similar military doctrines, strategies, and tactics for waging an unlimited war on the European continent and on the high seas.[31]

Alliance-Centered Conflict

By "demonizing" their opponents, the United States and the Soviet Union effectively forced the nations of the world to choose *which side they were on*. The split quite naturally led to the establishment of the North Atlantic Treaty Organization, Warsaw Pact, and other regional alliances, and even extended beyond the industrialized frontier to client states in the Third World. The institutionalization of the enemy that occurred over the next few decades fostered successive generations of "Cold Warriors" with a *one enemy, one mission* perspective.[32] Conflict, if or when it came, would be waged worldwide by two improbable coalitions. Over time, wargame scenarios, like the curricula of the professional military education (PME) organizations they supported, became increasingly focused on the known threat,[33] and contributed to the overall readiness of military forces preparing to neutralize a single foe with many faces.

Mechanized Warfare

Regardless of the trigger event or where it occurred, the focal point of a Cold War-turned-hot was Eastern Europe. Both camps, convinced that the central battle of the war would be waged on a open plain, prepared for an air-land campaign highlighted by large-scale, armor engagements. Heavy ground forces, postured for rapid maneuver warfare and supported by air and air defense forces, were the subject of every serious discussion of military readiness and combat capability on the European continent,[34] and educational wargames reflected this perspective. Even Naval War College exercises that focussed on

blue water combat versus the Soviet Navy recognized an overarching requirement to safeguard sea lines of communication so that supply convoys from the United States could reinforce the campaign in Europe.[35]

Notes

[1] Francis J. McHugh, *Fundamentals of War Gaming* (Newport, RI: U.S. Naval War College, 1966), 1-13.

[2] T.N. Dupuy, *Numbers, Predictions, and War: Using History to Evaluate Combat Factors and Predict the Outcome of Battles* (New York: The Bobbs-Merrill Company, Inc., 1979), 3.

[3] Peter P. Perla, *The Art of Wargaming* (Annapolis: Naval Institute Press, 1990), 16.

[4] Gary J. Toochet, *The 'Games' War Theorists Play* (Newport, RI: U.S. Naval War College, 1997), 15.

[5] McHugh, *Fundamentals of War Gaming*, 2-1.

[6] *Microsoft Encarta*, 1995 ed., "Chess."

[7] *Ibid*.

[8] *Ibid*.

[9] McHugh, *Fundamentals of War Gaming*, 2-6.

[10] *Ibid*.

[11] *Ibid*, 2-9.

[12] B.H. Liddell Hart, *Strategy* (London: G. Bell & Sons, 1929), 140.

[13] R. Ernest Dupuy and Trevor N. Dupuy, *The Encyclopedia of Military History From 3500 B.C. to the Present* (New York: Harper and Row Publishers, 1970), 831.

[14] Hajo Holborn, "Moltke and Schlieffen: The Prussian-German School," in *Makers of Modern Strategy: Military Thought from Machiavelli to Hitler*, ed. Edward Mead Earle (Princeton, N.J.: Princeton University Press, 1941), 174.

[15] Perla, *The Art of Wargaming*, 18.

[16] *Ibid*, 68.

[17] John Prados, *Pentagon Games: Wargames and the American Military* (New York: Harper & Row Publishers, 1987), 2.

[18] McHugh, *Fundamentals of War Gaming*, C-1.

[19] Dupuy, *Numbers, Predictions, and War, 67.*

[20] *Perla, The Art of Wargaming*, 275.

[21] Michael W. Garrambone, "Wargaming Environment and Computer-Aided Exercises," *Prime Warrior Course Student Notebook* (Montgomery, AL: College of Aerospace, Doctrine, Research, and Education, 1998), 19-6.

[22] Peter P. Perla, "Future Directions in Wargaming," *Joint Forces Quarterly* 5 (Sum 94): 78.

[23] *Ibid*, 80.

[24] *Ibid*, 78.

[25] Perla, *The Art of Wargaming*, 165.

[26] McHugh, *Fundamentals of War Gaming*, 4-2.

[27] *Ibid*, C-5.

Notes

[28] James F. Dunnigan, *The Complete Wargames Handbook: How to Play, Design and Find Them* (New York: William Morrow, 1992), 247.

[29] William F. Scott, "Wargames Revival Breaks New Ground," *Aviation Week and Space Technology*, 2 November 1998, 58.

[30] Garrambone, "Wargaming Environment," 19-5.

[31] Robert P. Haffa, Jr. and James H. Patton, "Gaming the 'System of Systems,'" *Parameters* 1 (Spr 98): 115.

[32] Robert B. Killibrew, "Learning From Wargames: A Status Report," *Parameters* 28 (Spr 98): 128.

[33] William B. Scott, "'Title-10' Games Shape Policies," *Aviation Week and Space Technology*, 2 November 1998, 61.

[34] Pavel A. Rotmistrov, "On Modern Soviet Military Art and Its Characteristic Features," in *The Soviet Art of War: Doctrine, Strategy, and Tactics*, ed. Harriet Fast Scott and William F. Scott (Boulder, CO: Westview Press, 1982), 141.

[35] Haffa and Patton, "Gaming the 'System of Systems,'" 115.

Chapter 3

Contemporary and Emerging DOD Wargaming

> *Wargaming doesn't predict the future, but it can test and evaluate future scenarios, help assess your strategies and evaluate your assumptions as the world continually changes.*
>
> —Michael J. Coumatos, 1998
> President, MC Associates

Having garnered an appreciation for how and why wargames evolved from an ancient test of strategic cunning to systems for modeling full-scale warfare between the United States and the Soviet Union in the nuclear age, let us now turn our attention to the modern wargaming environment. Educational wargaming is employed throughout the ranks of the joint military officer corps to enhance strategic, operational, and tactical level understanding of threats to U.S. national security and of the Armed Services' capability to respond to these threats. From complex, joint flag officer exercises to simple, training exercises for officer candidates, modern wargames should attempt to replicate the stresses and uncertainties of military operations by confronting emerging leaders with a variety of realistic scenarios. Instead, we'll discover that the DOD wargaming effort continues to focus leadership development through the politico-military lens of major theater war.

Current DOD Wargames, Simulations, and Models

Title-10 Wargames

Among the wide body of wargames conducted by the DOD, the pre-eminent expressions of the art are found in three Service Chief-sponsored wargames. United States Code, Title-10, which directs the organization, training, and equipping of each of the Armed Services,[1] authorizes the Air Force and Army Chiefs of Staff and the Chief of Naval Operations to conduct "national-level wargames that expose crucial issues to be resolved if the U.S. and its allies are to survive and win major future conflicts."[2] Although these wargames are not "educational" by design, their contributions to our overall understanding of war is significant. These events, *Global Engagement* (USAF), *Army After Next* (USA), and *Navy Global* (USN), are characteristically complex and fast-paced, creating decision-making environments that are both realistic and stressful. Promoted as the Services' "primary mechanisms"[3] for advancing the issues of greatest concern to the regional unified commanders-in-chief, Title-10 wargames enjoy broad support and participation by senior military, legislative, and executive decision-makers.[4] These wargames represent unique opportunities to focus varied experiences, expertise, and technologies upon critical issues of mutual concern while fostering joint service and inter-agency cooperation. New concepts, doctrine and policy revisions, and refined technologies frequently result from Title-10 events,[5] which highlight the operational, as well as educational, significance of wargaming.

Significant Educational Wargames

The compendia of educational wargames offered by the various JPME institutions are too extensive to enumerate in detail (See Appendix A for current wargames). Whereas a pyramid is often used to describe the levels of war, with the broad base representing the tactical level of conflict and the pinnacle representing the strategic level, the same image can be used to describe the DOD wargaming structure. A great number and variety of tactical-level, training wargames are available throughout the Services to educate company-grade officers, yet only a handful of wargames address the field-grade and flag officer concerns experienced at the operational and strategic levels of conflict. For lack of a better term, this small collection can be described as *significant educational wargames*, and is found primarily in the intermediate and senior service schools.[6]

Two notable exceptions in this category of wargames are *Joint Warrior* and *Good Hope*, wargames conducted in support of the Joint Flag Officer Warfighting Course (JFOWC). Sponsored by the Air Force and Army Chiefs of Staff, Chief of Naval Operations, and Marine Corps Commandant, JFOWC is the senior PME course in the DOD.[7] Attended by select two- and one-star joint flag officers, the course is designed to prepare senior military leaders for joint force and joint task force command.[8] The wargaming component of the course is developed by the Air Force and Army, approved by the CJCS, and presented in the Air Force Wargaming Institute. Addressing the full range of possible crisis scenarios these future commanders could encounter, JFOWC expands upon the traditional major theater warfare (MTW) wargaming experience embodied in *Joint Warrior* by offering a rare smaller-scale contingency (SSC) wargame, *Good Hope,* a humanitarian assistance scenario.

Simulations

Though primarily utilized as operational training tools and strategic planning aids, computer *simulations* are playing an increasingly important role in educational wargaming. Not to be confused with the tactical simulators used to train operators, wargame simulations are complex computer models [Joint Theater-Level Simulation (JTLS)] or a collection of integrated models [Air Warfare Simulation (AWSIM)] that provide comprehensive force-on-force representations in a variety of combat environments.[9] Depending on the quality of the simulation data base and the strength of the system programming (i.e., Does a given force component perform in a manner reflective of Service doctrine? Does the program algorithm avoid identical responses to similar situational inputs?) computer simulations can "provide insight into the full range of potential outcomes of a military campaign."[10] In other words, these systems permit players to observe a developing campaign across an entire theater of operations, provided that all relevant elements of the combat simulation are represented accurately. This level of visibility permits players to make operational level adjustments to their campaign plans in order to achieve the strategic objective(s) of their wargame.

Models

More narrowly focused than simulations, *models* are "detailed representations of a specific military event."[11] Varying in form from tabular data to state-of-the-art computer systems, models provide insight into any one of numerous mission areas of concern (i.e., strategic mobility, theater ballistic missile defense, weapon of mass destruction (WMD) effects). During the pre-hostilities phase of a wargame, models can assist in developing campaign plans, identify and prioritize logistics requirements, and demonstrate system-

on-system performance capabilities. Upon execution, models are used to monitor the movement of forces and supplies, display high value asset availability, and determine the outcomes of specific system-on-system engagements. The *on-demand* nature of modeling requires player familiarity with model availability and capability in order to make effective use of these systems as decision-making tools.

Strengths and Weaknesses of Contemporary Wargaming

As outlined in the preceding chapter and in the paragraphs above, contemporary wargaming employs a broad mix of methods, scenarios, simulations, and models and to support a wide array of strategic, operational, and tactical educational objectives. Evaluated individually, each of these various elements possesses capabilities and limitations with a potential to enhance or degrade the quality of a given wargame. Since many wargames integrate a variety of these elements in their design, a superficial examination reveals that the strengths of one or more elements tend to compensate for weaknesses of another. A comprehensive evaluation of these elements paints a different picture, however; revealing overall strengths and weaknesses characteristic of wargaming as an educational tool.

Strengths

A forty-year pre-occupation with the military threat posed by the Eastern Bloc sponsored long-term interest and experience in the conduct of MTW scenarios. As enemy capabilities expanded, and the perceived battle space became more complex, an ability to thoroughly model the operational level of war became a U.S. military priority.[12] Today, educational wargaming enjoys an unprecedented capability to simulate force-on-

force engagements in MTW conflict environments. Players and controllers benefit from the "big picture" of the ongoing campaign and the high-volume, post-engagement feedback these simulations provide. Further enhanced by the high-fidelity output of system-on-system capability models, contemporary educational wargaming offers rising military leaders an excellent tool for refining their MTW decision-making skills.

Weaknesses

Contemporary DOD wargaming is not without its flaws, however. Current combat simulations, with their complex programming and extensive data base files, require long lead times to modify in support of wargame scenarios that vary from the typical MTW formula. Conceived and developed at a time when the threats were clear and quantifiable, they are too inflexible for widespread application in an era characterized by unknown challenges and conceptual solutions. From a more pragmatic standpoint, the heavy manpower requirements of these legacy systems contrasts with the harsh reality of current budget restrictions. They are simply too expensive to maintain and operate.

Still, the major criticisms of the contemporary art stem not from cost overruns or what the wargames, simulations, and models do incorrectly but from what they fail to do at all. First, the overarching effort to master the Cold War threat resulted in very limited attention being devoted to SSC. While only a few scenarios have been developed to address these challenges, even fewer models are available to enhance the quality of SSC wargame play. Second, at the intermediate and senior service school levels of the JPME hierarchy, no discernable efforts to wargame transnational threat scenarios are visible. Lacking objective criteria for evaluating low-intensity conflict leadership decisions, the professional wargaming community appears to be taking a "too tough to do" position on

this issue.[13] The fact that existing simulations and, to a lesser degree, models are fine-tuned to support full-scale, conventional warfare scenarios only discourages operational-level wargaming developments in this critical area.[14]

The Emerging Wargaming Environment

Aware of the many shortcomings in the current wargaming architecture, the DOD, in conjunction with numerous private commercial interests is forging ahead with new and developing wargaming approaches and technologies.[15] The emerging environment promises greater emphasis on less traditional areas of interest, increased speed, fidelity, and interoperability from simulations and models, and significantly wider interest and participation in wargames altogether.

The aforementioned shift away from threat-based to concepts-based wargaming processes is an important first step toward the eventual eradication of the Cold War mindset in wargaming.[16] Newer wargames, like *Global Engagement 98* and *Navy Global 98,* focus on "pillar issues" within the context of a major conflict in the near future.[17] By exploring non-traditional approaches to conflict resolution (network-centric warfare, space control, asymmetric attack),[18] these wargames reject the attrition warfare paradigm that has dominated the art since World War II.[19] Whether it is done to maintain some level of continuity with the past or simply because it is perceived to be easier to do, these wargames still portray conflict in terms of a MTW scenario.

Technological innovations in simulation and modeling abound, and center around three critical requirements for future wargaming utility—integrated systems, inter-active systems, and distributive systems.[20] The benefits of fewer, fully-integrated systems, sometimes referred to as a *family of models,* or the "Joint Synthetic Battlespace," are both

financial and experiential.[21] By limiting the number of systems required to conduct complex wargames, the DOD will realize cost savings in acquisition and training. At the same time, fewer systems equate to lower manpower requirements for operations and maintenance. The development and acquisition of standardized technologies also contributes to enhanced joint interoperability in wargaming. This last point is the catalyst for emerging inter-active and distributive wargaming systems.

The ambitious overhaul of DOD wargaming recognizes that time and budget constraints are an issue for every sector of the Armed Services. By developing systems that are intuitive (user friendly) and accessible (participate via unclassified or classified networking systems), wargaming sponsors are creating a synthetic environment in which geographically separate players can contribute to the decision-making process. These developments not only promise to boost interest levels for a wide variety of wargames, they represent significant savings for participating subject matter experts (SME) as well. The ability for essential SME to participate from home station or deployed locations during designated hours of game play obviates the need travel to a wargaming locale for an extended period of time.

Putting the ledger aside, this emerging environment promises to be a dynamic forum for leadership education. An increased emphasis on timely issues combined with concurrent efforts to streamline and network the technological instruments of wargaming is expected to garner wargame participation from senior leaders throughout the politico-military complex.[22] The resulting interaction between rising and serving leaders should only enhance a wargaming experience designed to foster decision-making processes.

Still, the real value of this experience will be gauged on the fields of future conflicts, wherever they may be.

Notes

[1] U.S. Department of Defense, Joint Staff, *Unified Action Armed Forces* (Washington, D.C.: GPO, 1995), II-12.

[2] William B. Scott, "'Title-10' Games Shape Policies," *Aviation Week and Space Technology*, 2 November 1998, 61.

[3] *Ibid*.

[4] William B. Scott, "Wargames Revival Breaks New Ground," *Aviation Week and Space Technology*, 2 November 1998, 57.

[5] Scott, "'Title-10' Games Shape Policies," 61.

[6] Peter P. Perla, "Future Directions for Wargaming," *Joint Force Quarterly* 5 (Sum 94): 81.

[7] Charles E. Acree, *Air Force Wargaming Institute Compendium* (Montgomery, AL: College of Aerospace Doctrine, Research, and Education, 1999), 10.

[8] *Ibid*.

[9] James F. Dunnigan, *The Complete Wargames Handbook: How to Play, Design and Find Them* (New York: William Morrow, 1992), 236.

[10] Air Force Agency for Modeling and Simulation, Air Force Modeling and Simulation Resource Repository, *Simulations*, n.p.; on-line, Internet, 29 October 1998, available from http://afmsrr.afams.af.mil/.

[11] Air Force Agency for Modeling and Simulation, Air Force Modeling and Simulation Resource Repository, *Models*, n.p.; on-line, Internet, 29 October 1998, available from http://afmsrr.afams.af.mil/.

[12] Dunnigan, *The Complete Wargames Handbook*, 239.

[13] William B. Scott, "Wargames Revival Breaks New Ground," *Aviation Week and Space Technology*, 2 November 1998, 56.

[14] Peter P. Perla, *The Art of Wargaming* (Annapolis: Naval Institute Press, 1990), 159.

[15] U.S. Air Force, Air Force Agency for Modeling and Simulation, *A New Vector: Air Force Modeling and Simulation* (Washington, D.C.: GPO, 1996), 10.

[16] Scott, "'Title-10' Games Shape Policies," 61.

[17] *Ibid*, 62.

[18] *Ibid*, 61.

[19] *Ibid*.

[20] Scott, "Wargames Revival," 57.

[21] U.S. Department of Defense, United States Air Force, *A New Vector*, 5.

[22] Scott, "Wargames Revival," 57.

Chapter 4

21st Century Challenges to American Military Leadership

> *Of course, the identity of the source of the threat changes. Yesterday, we could have said with reasonable confidence that at its root would be some degree of Soviet mischief-making. But today, Islamic extremists, ethnically driven terrorist groups, rogue states no longer disciplined by powerful patrons—all of these have assumed a new importance, alongside the age-old problem of the dictator in charge of an unstable, bankrupt, expansionist state…*
>
> —Lady Margaret Thatcher, 1998
> Former Prime Minister of Great Britain

A basic appreciation for the historical merits of wargaming provided a starting point for evaluating modern wargaming constructs as they pertain to JPME leadership development. In chapter three, an examination of current and proposed DOD wargaming projects revealed many promising technological innovations but a stagnant emphasis on Cold War-type, MTW scenarios. To determine the ongoing value of wargaming as a tool for enhancing leaders' decision-making processes, it is essential to contrast the DOD's approach to JPME wargaming against the current and emerging challenges confronting the senior echelons of America's Armed Forces.

Traditional Challenges

Major Theater Warfare (MTW)

Although the United States now stands as the lone superpower, our national interests and security do not go unchallenged in the community of nations. To preserve U.S. freedom and prosperity, the Nation's military must be prepared to "fight and win" large-scale wars no matter where or when they should occur.[1] This requirement, articulated by the President in the National Security Strategy (NSS) and echoed by the CJCS in the National Military Strategy (NMS), is the purpose for which we maintain the Armed Forces, and is the foremost task with which they are charged.[2] As the preponderance of current DOD wargames feature MTW scenarios, rising leaders are familiar with and relatively well prepared for the challenges of large-scale war.

Regional Dangers

The most likely sources of a traditional, large-scale war are expanding conflicts between states and alliances within a defined region.[3] While the potential for conflict resides everywhere in the world, only belligerent states in Southwest Asia (SWA) and on the Korean Peninsula currently possess "the desire and means to challenge the United States militarily."[4] In particular, Iraq, Iran, and North Korea pose an enduring threat to vital U.S. interests.[5] It is not surprising, therefore, that nearly all of the DOD MTW wargames are devoted to SWA and Korean scenarios.

Contemporary Challenges

Smaller-Scale Contingencies (SSC)

While tremendous intellectual capital is devoted to preparations for the next MTW, the bombs, bullets and beans, and, regrettably, the blood of the Armed Forces are expended on other battlefields. Military operations short of major warfare, whether they're called low-intensity conflict (LIC) operations, military operations other than war (MOOTW), or SSC, levy ever-increasing demands on the time, talents, and resources of the U.S. military.[6] Since 1989, U.S. military forces have participated in nearly 40 named operations—only one of which was a MTW—and another 11 significant unnamed SSC operations (See Appendix B for military operations summary). In the conduct of these humanitarian assistance or peacekeeping operations, the maintenance of no-fly zones, the execution of limited strikes, and a whole host of other operations,[7] military leaders have relied upon the lessons learned in full-scale warfare exercises to successfully accomplish their appointed tasks. To date, only three SSC wargames are conducted in conjunction with command and staff college-level and higher JPME curricula, and more are needed (See Appendix A for current wargames).

Asymmetric Challenges

In the aftermath of the overwhelming offensive against Iraq in 1991, the enemies of the U.S. seek to avoid direct confrontation with U.S. Armed Forces. Conducting operations designed to "circumvent our strengths and exploit our vulnerabilities,"[8] America's adversaries want to complicate already complex SSC environments in order to gain some competitive advantage. By targeting force-enabling space capabilities, a belligerent state or group could degrade or render useless critical communications and

weapon systems. They may employ terrorist-style attacks upon lucrative sites (e.g. Khobar Towers) to undermine the morale and effectiveness of deployed forces and to erode public support at home. Worse still, they may threaten to use or actually employ WMD against deployed forces or host nations in order to undermine political and military cooperation.[9] These asymmetric challenges are difficult to simulate in the gaming environment, but they are fearful realities that command attention and the Services' Title 10 wargames are now focussing on these issues.[10]

Future Challenges

Transnational Threats

Even as the U.S. Armed Services labor to develop new doctrine, new education and training approaches, and new organizations and equipment to deal with the contemporary challenges of the post-Cold War era, other dangers are coming into view. International terrorism, international crime, and the trafficking of illegal narcotics, threaten the security of the U.S. and its allies and friends.[11] Though ill suited for these tasks, the military instrument of power may be applied to counter them. Such operations would require a high degree of inter-agency coordination and cooperation to affect acceptable outcomes.[12] The same is true for military operations to mitigate the effects of environmental catastrophes (i.e., floods, famines, epidemics). Though not specifically trained to respond to these events, or to the attendant refugee flows that follow,[13] military leaders and the forces they command will be placed into these very environments to alleviate human suffering, restore order and security, and to conduct other missions as

may be required. At present, only the *Good Hope* wargame broaches any of these difficult areas of concern, and this game is reserved for flag officer play.

Emerging Threats at Home

Recently revised, NSS 98 lists this new, separate category of concern in the *Responding to Threats and Crises* portion of the document. Emerging threats within the confines of the continental United States (CONUS) represent a security concern requiring military attention and, possibly, intervention. The two key issues outlined in this NSS category are "managing the consequences of WMD incidents, principally biological weapons attacks,"[14] and "protecting critical infrastructures (i.e., telecommunications, energy, banking and finance, transportation, water systems, and emergency services)."[15] Once again, operations of this kind will require inter-agency coordination and cooperation plus the "assistance of state and local governments."[16] JPME educational wargaming does not address this area at present.

"Wild Cards"

Finally, the current NMS presents a miscellaneous category of challenges called *Wild Cards*. These challenges include unexpected "revolutionary technological developments, the failure of important alliances, and the overthrow of regimes friendly to the U.S.,"[17] all of which possess a potential to alter the current distribution of power. Although these types of challenges are considered important enough to distinguish them from other challenges to U.S. security and military readiness, in JPME wargaming they're simply used as trigger events for larger crises.

The Big Picture

When the traditional, contemporary, and future challenges to U.S. national security and interests are fused into a single, multi-dimensional threat environment, the images of a complex and dangerous future world come into focus. Although the U.S. faces technologically sophisticated adversaries, no *peer competitor*, that is a nation willing and capable of confronting U.S. Armed Forces conventionally and of threatening the CONUS unconventionally (with nuclear weapons), exists or is likely to emerge in the near-term.[18] At the same time, current strategic assessments limit the chances for near-term MTW to two specific global regions, regions that have been and remain primary targets of all U.S. instruments of power. This relative stability on the large-scale war front contrasts with ever-increasing activity in the SSC realm. Worldwide engagement in SSC operations is putting a tremendous strain on both resources and personnel, including leadership.[19] Commanders must be prepared to respond to a widening field of operations with smaller, CONUS-based forces.[20] As transnational dangers threaten the stability of an increasingly-interdependent world and emerging threats at home destabilize the last, safe base of operations, the enormity of the military leadership mandate can finally be appreciated.

Notes

[1] U.S. Department of Defense, Joint Staff, *Joint Vision 2010* (Washington, D.C.: GPO, 1996), 4.

[2] U.S. Department of Defense, Joint Staff, *National Military Strategy* (Washington, D.C.: GPO, 1997), 5.

[3] *Ibid*, 8.

[4] *Ibid*.

[5] *Ibid*.

[6] U.S. President, *A National Security Strategy For A New Century* (Washington, D.C.: U.S. GPO, 1998), 21.

Notes

[7] *Ibid*.
[8] U.S. Department of Defense, Joint Staff, *National Military Strategy*, 9.
[9] *Ibid*.
[10] William B. Scott, "'Title-10' Games Shape Policies," *Aviation Week and Space Technology*, 2 November 1998, 61.
[11] U.S. President, *A National Security Strategy*, 15.
[12] *Ibid*.
[13] U.S. Department of Defense, Joint Staff, *National Military Strategy*, 9.
[14] U.S. President, *A National Security Strategy*, 19.
[15] *Ibid*, 20.
[16] *Ibid*, 21.
[17] U.S. Department of Defense, Joint Staff, *National Military Strategy*, 10.
[18] *Ibid*, 8.
[19] Walter F. Ulmer, "Military Leadership into the 21st Century: Another 'Bridge Too Far,'" *Parameters* 1 (Spr 98): 5.
[20] U.S. Department of Defense, Joint Staff, *Joint Vision 2010*, 4.

Chapter 5

Conclusions

The unknown is in the main synonymous with the future, whose events are anticipated only in the light of experience…

—J. M. Cameron, 1960
U.S. Military Doctor

If we wish to think clearly, we must cease imitating; if we wish to cease imitating, we must train ourselves for the unexpected in place of training others for the cut and dried.

—J. F. C. Fuller, 1936
British Military Strategist

This study opened with General Shalikashvili's assertion that U.S. JPME institutions must "provide our warfighters with an understanding of strategic concepts in the future environment where military force will be applied."[1] He then went on to assert that the emphasis of our education and training programs has to be on emerging threats to U.S. national security and international peace and stability. This study analyzed the origins of modern wargaming, reviewed contemporary and emerging developments in the art and science of wargaming, and examined the challenges that are likely to confront American military leaders in the first decade of the 21st century. The following summary demonstrates that, taken as a whole, the DOD wargaming effort fails to comply with the Chairman's mandate.

Summary of Findings

From the crude playing boards of *Chaturanga* to the technological sophistication of *Global Engagement*, wargames have prepared military officers for the intellectual demands of conflict for centuries. Chapter Two demonstrated that wargames are a time-honored means for developing decision-making skills. Their enduring value is rooted in their ability to evolve in-step with the ever-changing nature of war. In the past, wargames have helped leaders and their fighting forces achieve quick victories. For the foreseeable future, wargames will and should remain an important facet of the U.S. JPME experience.[2]

As revealed in Chapter Three, the Cold War created a U.S. warfighting mentality that runs deep in the still waters of modern Service cultures.[3] Currently, DOD wargames and supporting technologies reflect an attrition warfare perspective reminiscent of the Cold War era. Despite remarkable innovations in modeling and simulation capabilities, most wargames—even "visionary" constructs—continue to emphasize classic MTW, or force-on-force, scenarios.[4] To redress this issue, the Services developed several "new" wargames in the 1990s that feature many advanced technologies in wargame execution. Unfortunately, the lack of substantial modern SSC case studies and a limited body of SSC Service doctrines conspire to thwart any meaningful progress in the effort to overcome the MTW mindset. As a result, "new" wargames tend to model MTW scenarios even better than before while remaining generally unsuitable for modeling the unique challenges of the SSC environment.

Chapter Four described an international system characterized by widespread, unpredictable, low-intensity threats to peace and stability. Devoid of a peer competitor,

the strategic environment challenges the U.S. to effectively engage overlapping SSC threats in every region (with a smaller force structure). The result, U.S. Armed Forces are conducting numerous operations throughout the spectrum of conflict, except MTW. The nature of these and likely future operations are considerably more complex than traditional MTW scenarios, like Operation DESERT STORM. Due to this complexity, modeling and simulation programmers and engineers label SSC wargames as simply too difficult to game.[5]

The DOD's continuing emphasis on MTW wargames rejects the desired and necessary parallelism between wargaming and military operations. The wargaming tool is no longer evolving with the threat environment, and the time-tested educational value of this practice is compromised. Simply stated, DOD wargames do not prepare American military leaders for the threat environments in which they are currently engaged, nor do they prepare them for the challenges that lie ahead.

Our failure to devote intellectual energies to wargaming contemporary and emerging threats today could result in predictable and/or inappropriate military responses to future crises. If this occurs, U.S. military operations will be in jeopardy and the Nation's prestige, and thus its perceived power, will be diminished. Should the precipitous loss of American lives accompany such failures, an event that is unconscionable to most U.S. citizens even in the midst of clearly justifiable and well executed operations, the loss of public support for continued action would be inevitable. The long-term implications of the American public losing faith in our military leaders would almost certainly undermine the effective use of the military instrument of power as a tool for conflict resolution.

Recommendations for the Future

It is not within the scope of this study, nor is it the author's intent, to suggest that the loss of congruity between the nature of wargaming and the nature of war will lead to defeat and humiliation for U.S. forces in the future. Still, one can argue that some measure of military efficiency and effectiveness is sacrificed when education and training programs devote a disproportionate degree of attention to an area of study that is thoroughly researched and represents an ever less likely challenge to American military leadership. A few simple, yet fundamental, changes to the current wargaming effort are all that is required to set the balance level once again. The author recognizes that, with regard to level of effort, the articulation and implementation of these modifications are widely divergent tasks.

First, JPME institutions must continue the conduct of MTW-type wargames. MTW wargame scenarios and the large-scale, joint force warfighting capability they represent are the distillation of America's hard won lessons learned from wars-gone-by. We cannot afford to lose our national capability to fight and win a war of this kind, and the elimination of MTW wargame play would contribute to that very deficiency.

Next, increase the percentage of SSC-type wargames being played in JPME colleges. Currently, MTW planning and execution skills development is the educational centerpiece of most academic institutions, and MTW wargames represent capstone events. In light of the number and diversity of challenges to American military leadership (other than MTW) that exist or are emerging, JPME colleges must diversify their curricula to immediately incorporate SSC wargame play at a level equivalent with MTW exercises (See Appendix C for a proposed SSC wargame).

Third, JPME institutions should solicit and channel appropriate subject matter expertise into SSC-type wargame development projects. The nature of SSC devalues traditional warfighting capabilities and focuses on unconventional means, such as special operations forces (SOF). Heavy reliance on inter-agency coordination and cooperation, and frequent interfacing with non-governmental organizations (NGO) and private volunteer organizations (PVO), make SSC surprisingly complex operations.[6] Official representation by these types of agencies and organizations would lend tremendous realism to SSC simulations, and provide leaders in-training with valuable insights for planning and executing operations in environments they are likely to encounter in the near-term.

Finally, elements of transnational threats and emerging threats at home should be integrated into both MTW and SSC wargames. These threat areas, while dangerous and potentially de-stabilizing, are too narrowly focused to be the centerpieces of JPME wargames. However, the incorporation of these threats as variables within more complex gaming scenarios will highlight the significant impact such events are capable of leveraging upon decision-makers at the strategic and operational levels of conflict and upon ongoing operations. And, if American military leaders are called upon to react with force to these threats in the future, their wargaming experiences may be the only opportunities they ever had to reflect on and prepare for the unique challenges these threats will present.

In sum, to prepare American military leaders for the challenges of the post-Cold War strategic environment, SSC wargames must be developed and executed throughout the JPME community in conjunction with ongoing MTW wargaming programs.

Notes

[1] U.S. Department of Defense, Joint Staff, *Joint Vision 2010* (Washington, D.C.: GPO, 1996), 30.

[2] Robert P. Haffa, Jr. and James H. Patton, "Gaming the 'System of Systems,'" *Parameters* 1 (Spr 98): 120.

[3] William B. Scott, "'Title-10' Games Shape Policies," *Aviation Week and Space Technology*, 2 November 1998, 61.

[4] Robert B. Killibrew, "Learning From Wargames: A Status Report," *Parameters* 28 (Spr 98): 127.

[5] William B. Scott, "Wargames Revival Breaks New Ground," *Aviation Week and Space Technology*, 2 November 1998, 56.

[6] U.S. Department of Defense, Joint Staff, *Joint Doctrine for Military Operations Other Than War* (Washington, D.C.: GPO, 1995), IV-7.

Appendix A

Current Wargame Matrix

TITLE-10

LEVEL (SPONSOR)	**USAF**	**USA**	**USN**	**USMC**
STRATEGIC / OPERATIONAL (SERVICE CHIEFS)	Global Engagement (MTW)	Army After Next (MTW)	Navy Global (MTW)	Navy Global (MTW)

EDUCATIONAL

STRATEGIC (JOINT CHIEFS)	Joint Warrior (MTW)	Joint Warrior (MTW)	Joint Warrior (MTW)	Joint Warrior (MTW)
STRATEGIC (JOINT CHIEFS)	Good Hope **(SSC)**	Good Hope **(SSC)**	Good Hope **(SSC)**	Good Hope **(SSC)**
STRATEGIC / OPERATIONAL (WAR COLLEGES)	Tandem Challenge * (MTW)	Strategic Crisis Exercise (MTW / **SSC**)	Regional Contingency War Game (MTW)	CINCEX **(SSC)**
OPERATIONAL (WAR COLLEGES)	JLASS ** (MTW)	JLASS ** (MTW)	JLASS ** (MTW)	JLASS ** (MTW)
OPERATIONAL (COMMAND & STAFF COLLEGES)	Tandem Challenge * (MTW)	Prairie Warrior (MTW)	Regional Contingency War Game (MTW)	Operation: OPEN ACCESS **(SSC)**
TACTICAL (ADVANCED COURSES)	Operation: ATLANTIS II (SSC)	-	Enhanced Naval War Game (MTW)	-
TACTICAL (BASIC COURSES)	Blue Thunder (MTW)	-	-	-
TACTICAL (ACCESSION SOURCES)	Pisces (SSC)	-	-	-

* *Tandem Challenge* is the integrated, capstone wargame of Air University (Air War College and Air Command and Staff College).

** *Joint, Land, Aerospace, and Sea Simulation (JLASS)* is a joint service wargame played by the four senior service schools and the two colleges of National Defense University (National War College and the Industrial College of the Armed Forces).

Appendix B

Military Operations Summary

1989
BLADE JEWEL
JUST CAUSE
NIMROD DANCER
Volcano Eruption – Base Evacuation (Philippines)

1990
DESERT SHIELD
PROMOTE LIBERTY
SHARP EDGE
TOP KICK

1991
DESERT STORM (MTW)
EASTERN EXIT
FIREY VIGIL
PROVIDE COMFORT
SEA ANGEL

1992
Counter-Drug Operations (Columbia)
Hurricane Relief (Miami)
Non-Combatant Evacuation (Liberia)
PROVIDE COMFORT
PROVIDE PROMISE
PROVIDE RELIEF
RESTORE HOPE
Riot Control (Los Angeles)
SOUTHERN WATCH
Typhoon Relief (Guam)

1993
DENY FLIGHT
PROVIDE COMFORT
PROVIDE PROMISE
RESTORE HOPE
SOUTHERN WATCH
SUPPORT DEMOCRACY

1994
DENY FLIGHT
DISTANT RUNNER
Earthquake Relief (Los Angeles)
PROVIDE COMFORT
PROVIDE PROMISE
RESTORE HOPE
SOUTHERN WATCH
SUPPORT HOPE
UPHOLD DEMOCRACY
VIGILANT WARRIOR

1995
DELIBERATE FORCE
DENY FLIGHT
Hurricane Relief (Panama City)
JOINT ENDEAVOR
PROVIDE COMFORT
PROVIDE PROMISE
SOUTHERN WATCH
UNITED SHIELD
VIGILANT SENTINEL

1996
ASSURED RESPONSE
China-Taiwan Crisis
DESERT STRIKE
Humanitarian Relief (Burundi)
JOINT ENDEAVOR
Khobar Towers Attack (Saudi Arabia)
Olympics' Security (Atlanta)
PROVIDE COMFORT
PROVIDE PROMISE
QUICK RESPONSE
SOUTHERN WATCH

1997
ASSURED LIFT
GUARDIAN RETRIEVAL
NORTHERN WATCH
JOINT GUARD
SILVER WAKE
SOUTHERN WATCH

1998
DESERT FOX
Hurricane Relief (Honduras)
JOINT FORGE
NORTERN WATCH
SOUTHERN WATCH

Appendix C

Proposed Wargame

KOSOVO IN CRISIS

Objectives: Examine an emerging crisis situation in the Former Yugoslav Province of Kosovo. Conduct crisis action planning (CAP) to provide the NCA with a range of viable conflict resolution options. Demonstrate a thorough understanding of military operations planning in a smaller-scale contingency environment by preparing and briefing:

1) Prioritized military courses of action (COA) for NCA consideration
2) Recommendations for Joint Task Force (JTF) composition
3) Commander's concept of operations (CONOPS)
4) Command relationships
5) Subordinate (component) task assignments
6) Rules of engagement (ROE)

Scenario: Following the break-up of Yugoslavia in 1992, ethnic violence erupted in virtually every republic of the former state. Widely publicized fighting in Croatia, Bosnia-Herzegovina, and Serbia overshadowed disputes between the Former Yugoslav capital, Belgrade, and several of the smaller provinces. During that time, a separatist movement in the Serbian province of Kosovo surfaced along ethnic lines. Kosovo's ethnically Albanian population launched a political campaign to unify the Serbian province with neighboring Albania. In 1997, protests turned violent as militant separatists and Serbian loyalists in Kosovo clashed over the succession issue. For nearly

a year, Serbian military forces have conducted limited attacks on separatist's base camps in the province of Kosovo while Belgrade denounced the separatist movement as a rebellion. Kosovo "rebels," operating from safe havens in Albania, began conducting cross-border attacks on Serbian forces occupying Kosovo in 1998. By year's end, Serbia denounced Albania's role in the affair, accusing the Tirana government of "harboring and supplying 'terrorists' and allowing them to wage an illegal war on the sovereign territory of Serbia." All three parties, Serbians, Albanians, and Kosovo Albanians are appealing to the United Nations for assistance in preventing conflict escalation and resolving this crisis as quickly as possible. To date, 1,723 Kovoso Albanians and 47 Serbians have been killed due to fighting, and approximately 29,600 persons have fled their homes to seek refuge in Albania or in the Former Yugoslav Republic of Macedonia. **(Additional intelligence preparation of the battlefield is required before wargame execution.)**

Data Base:

ORDER OF BATTLE	Serbia	Kosovo	UN Force
Air Forces	(TBD)	(TBD)	(TBD)
Ground Forces	(TBD)	(TBD)	(TBD)
Naval Forces	(TBD)	(TBD)	(TBD)
Special Forces	(TBD)	(TBD)	(TBD)

Models: Minimal model support is required to provide fidelity and realism to this exercise. Support requirements will be satisfied using the following models:

Extended Aerospace Defense Simulation (EADSIM)
C4ISR Space and Missile Operations Simulation (COSMOS)
Satellite Tool Kit (STK)

Rules:

1) Players develop daily deliverables (plans, moves, etc.) based upon situation updates and focused exercise objectives
2) Players submit requests for information (RFI) to the wargame control element for clarification of scenario details and/or to acquire intelligence data

3) Controllers provide RFI responses to all player inquiries, as appropriate
4) Controllers adjudicate each player days' move to assess objective compliance
5) Controllers prepare and brief daily situation updates to focus players' planning and execution efforts

Players: Command and Staff College students role play as JTF *Kosovo*. Players must fill, but are not limited to, the following roles:

Commander, JTF *Kosovo*

Commander's Staff
- Chief of Staff
- J-2, Intelligence
- J-3, Operations
- J-4, Logisitics
- J-5, Plans
- J-7, Interoperability
- POLAD

Subordinate Commanders
- AFFOR (JFACC)
- ARFOR (JFLCC)
- NAVFOR (JFMCC)
- MARFOR
- JSOTF (JFSOCC)

Controllers: Command and Staff College faculty members, augmented (as required) by inter-agency subject matter experts role play as the National Command Authorities, Joint Staff, and other roles including, but not limited to:

President
- SECDEF
- SECSTATE
- DCI
- US Ambassador to Serbia
- CJCS
- CINCTRANS
- CINCSOC
- CINCSPACE

Analysis: Player decisions (plans and reactions to game inputs) will be documented and reviewed to determine:

1) Understanding of and compliance with the stated mission
2) Appropriate use of joint and service doctrine, and (if applicable) multinational agreements to plan JTF operations
3) Appropriate use of joint and service doctrine, and (if applicable) multinational agreements to execute JTF operations
4) Appreciation for the unique demands of SSC operations planning and execution

Glossary

AFFOR	Air Force Forces
ARFOR	Army Forces
CAX	Computer-Aided Exercises
CINC	Commander-in-Chief
CJCS	Chairman of the Joint Chiefs of Staff
CONOPS	Concept of Operations
DCI	Director, Central Intelligence Agency
DOD	Department of Defense
JFACC	Joint Force Air Component Commander
JFLCC	Joint Force Land Component Commander
JFMCC	Joint Force Maritime Component Commander
JFSOCC	Joint Force Special Operations Component Commander
JPME	Joint Professional Military Education
JSOTF	Joint Special Operations Task Force
JTF	Joint Task Force
LIC	Low-Intensity Conflict
MARFOR	Marine Corps Forces
MOOTW	Military Operations Other Than War
MTW	Major Theater Warfare
NAVFOR	Naval Forces
NMS	National Military Strategy
NSS	National Security Strategy
POLAD	Political Advisor
ROE	Rules of Engagement
SECDEF	Secretary of Defense
SECSTATE	Secretary of State
SSC	Smaller-Scale Contingencies
WMD	Weapons of Mass Destruction

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